REMARKS

Claims 1-23 are pending.

Claims 1-5 have been cancelled herein without prejudice.

Claims 10 and 19 have been responsively amended to correct for the improper use of trademarks/tradenames, as requested by the Examiner. No new matter has been added.

Claims 6-23 have been non-responsively, and non-substantively amended by the applicant to further clarify and conform the claim language throughout (see marked-up claims). Support for these amendments is found in the originally filed claims. No new matter has been added.

New *dependent* claims 24 and 25 have been added to reflect the further limitation of secondary bias values. Support for these claims is found in the originally filed claim set (*e.g.*, original claims 6 and 7, etc.). No new matter has been added.

Applicant acknowledges the Examiner's objection to the Summary section of the specification, and has amended the specification accordingly, and has otherwise checked for minor errors throughout the specification.

Applicant acknowledges the Examiner's 35 U.S.C. § 101 rejection, and has cancelled the implicated claims without prejudice.

Applicant acknowledges the Examiner's 35 U.S.C. §§ 102 and 103-based rejections, and has respectfully traversed these rejections, based on the fact that the teachings of Lenz have been inadvertently misconstrued.

No new matter has been added.

FORMALITIES

Applicant, pursuant to the draftsperson comments of 26 June 2001, has previously (10 August 2001) submitted 29 sheets of conforming formal drawings. No new matter has been added.

Rejection under 35 U.S.C. § 101

The Examiner has rejected claims 1-5, under 35 U.S.C. § 101, as being directed to non-statutory subject matter (Paper 7, page 2, paras 6 and 7).

Applicant herein cancels claims 1-5 without prejudice.

Applicant, therefore, respectfully requests withdrawal of this rejection.

Rejection under 35 U.S.C. § 112

The Examiner has rejected claims 1-5, under 35 U.S.C. § 112, paragraph 2, as not being enabled in view of the above rejection under 35 U.S.C. § 101 (Paper 7, page 3, paras 9 and 10).

Applicant respectfully requests withdrawal of this rejection in view of having non-prejudicially cancelled claims 1-5.

Rejection under 35 U.S.C. § 112

The Examiner has rejected claims 4, 10 and 19, under 35 U.S.C. § 112, paragraph 2, as being indefinite in reciting a trademark/trade name to identify a core algorithm (Paper 7, page 3, paras 11 and 12).

Applicant has cancelled claim 4 as indicated above, and has amended claims 10 and 19 to recite "algorithm 42 (ELICIT^{TM})" in place of "ELICIT^{TM} 'Algorithm 42' core algorithm".

Support for this amendment is found in the originally filed specification at, *inter alia*, pages 34 through 38, under Example 1. No new matter has been added.

Applicant, therefore, respectfully requests withdrawal of this indefiniteness rejection in view of applicant's responsive claim amendments.

Rejection under 35 U.S.C. § 102

The Examiner has rejected claims 1-4 and 6-12, under 35 U.S.C. § 102(b), as being anticipated by Lenz (US 5,784,539; filed 26 Nov. 1996) (Paper 7 at page 4, paras 13 and 14).

Claims 1-4 have been non-prejudicially cancelled herein above, and so will not be discussed with in the context of this rejection.

Specifically, with respect to claims 6, the Examiner asserts that Lenz teaches: (a) configuring, in a data base, a set of alternative possibilities, a query set, and a set of expert-provided primary bias values, wherein each value is associated with an alternative reflecting the expert's conception of the predictive value of the query for the particular alternative (referring to Fig. 1, col. 6, lines 31-57, "database....possibility values"); (b) inputting a user's response to the query (referring to col.6, lines 3-65); and (c) software-assisted ranking of the alternatives according to likelihood, based at least in part on the set of primary bias values (referring to Fig.1, col.7, lines 17-42, "executable module...ranked list").

With respect to claim 7, the Examiner asserts that Lenz further teaches querying the database to determine, based on the response to the query and the primary bias values, a set of secondary bias values as defined by the instant applicant (referring to col.8, lines 23-25) (*Id*, page 6).

With respect to claim 8, the Examiner asserts that Lenz further teaches decreasing, increasing or conserving the corresponding primary bias values in determining the secondary bias values (referring to col.8, lines 57-65) (*Id*, page 7).

With respect to claim 9, the Examiner asserts that Lenz further teaches that ranking the alternatives involves summing and averaging the primary or secondary bias values (referring to col.18, lines 25-29) (*Id*, page 7).

With respect to claim 10, the Examiner asserts that Lenz further teaches use of an algorithm to process one or more of the primary or secondary bias values (referring to col.5, lines 42-47). The Examiner incorrectly states, however, that Lenz teaches "Algorithm 42," which is the instant applicant's novel algorithm (*Id*, page 7).

With respect to claim 11, the Examiner's rejection is based in analogy with respect to claim 1, but Applicant does not understand this basis because claim 11 is a dependent claim reciting the limitation of medical conditions or diagnosis (referring to col.18, lines 25-29) (*Id*, page 7). Applicant assumes that the Examiner intended to reject dependent claim 11 of the same bases as claims 1 and 5, dependent claim 5 being limited in analogy with dependent claim 11.

With respect to claim 12, the Examiner's rejection is based in analogy with respect to claims 1 and 6; the limitations of dependent claim 12 being analogous to those of dependent claim 6.

Applicant respectfully *traverses* the Examiner's *anticipation* rejection with respect to applicant's claims 6-12, based on the fact that the teachings of Lenz have been inadvertently misconstrued.

Specifically, Lenz represents an improvement of a classic expert system. Such classic prior art expert systems directly mapped a set of inputs (*e.g.*, case facts; input space) to a set of outputs (*e.g.*, network system architectures; output space) through a knowledge base of rules and other facts, wherein the mapping is *direct*, being based entirely on the knowledge base rules. Incorporation of new network system architectures in such systems necessarily involves updating/changing the knowledge base rules, thus making them 'brittle' (inflexible).

The improvement of Lenz is merely to provide an expert system design "that separates the mapping of the input space of case specific facts from the determination of the output space by interposing an intermediate quality space..." (a common language so to speak) (col. 3, lines 15-20). To accomplish this, the Lenz improvement involves assignment of architecture 'qualities' and 'quality values' and creation of a common language intermediate quality space. The expert system encodes a set of rules that map a given set of case specific facts input by the user into a set of case-specific required qualities, rather than directly into one or more of the output entities (*e.g.*, network system architectures) (col. 3, lines 26-29). Instead, a matching algorithm is use to match the user required qualities with the defined qualities of the output entities (col. 3, lines 29-39). With respect to Fig. 2 of Lenz, the Lenz improvements, in contrast to the prior art, are essentially embodied in elements 110 (Quality Tables), 108 (Arch. Library), and 124 (Required Qualties); wherein the required qualities 124 and the Arch. Library qualities 108, are matched, using architecture scores, with Matching Algorithm 120. The architecture score is computed by comparing the quality value of each required quality with the quality value of the corresponding quality of the architecture (col.8, lines 56-59).

Significantly, however, like classic prior art expert systems, Lenz teaches, uses and requires: (1) an inference engine; and (2) a rules-based knowledge system. The rule tables are used by the inference engine to map a user's answers onto the qualities to produce a set of required qualities (col. 7, lines 1-13; col.8, lines 18-22). Moreover, these elements are reflected in the independent claims of Lenz, which recite "an expert system module that maps the answers into a set of qualities to determine a set of required qualities...", and "a matching algorithm module that receives the required qualities...and compares the first quality values of the required qualities to the second quality values of selected ones of the qualities of the output entities to determine a ranked set of output entities that satisfy the required qualities" (Column 50, claim 1).

By contrast, the instant methods are not simply an improvement of an expert system with an intermediate language space and matching algorithm, but represent a *novel form* of expert system design to eliminate the need for classic inference engines and rules tables. Significantly, the instant methods do not require rule tables, do not require an inference engine in the sense of Lenz, do not require 'qualitites' and 'quality values' analogous to those of Lenz, and do not rank based on architecture scores based on such quality values.

The instant inventive methods have, in essence, queries and conditions (diagnoses) that are related by certain '*bias values*' that are distinct from the vertical 'qualities' of Lenz. Specifically, the instant bias values are defined as being associated with a particular alternative of the set of alternatives, and reflects at least one human expert's prior conception of the degree of predictive value of the query for the particular alternative relative to others.

Additionally, the Lenz output 'qualities' are not related to user input, whereas the instant bias values are related to input, in that they can be modified by response and/or absolute dependency (*see, e.g.*, Fig. 17, and discussion of absolute dependencies on page 31). Thus, the instant bias values are distinct from either the user required 'qualities' and 'quality values' of Lenz, or the architecture 'qualities' and quality values of Lenz.

Therefore, the claimed subject matter of the instant invention is distinct from that of Lenz as taught or claimed. Lenz, in fact does not teach the bias values of the instant invention, nor the ranking of alternatives without the use of a classical inference engine and rule tables.

Applicant respectfully requests withdrawal of the Examiner's anticipation rejection of claims 6-12 (as currently amended herein) based on Lenz.

Rejection under 35 U.S.C. § 103

The Examiner has rejected claims 5 and 13-23, under 35 U.S.C. § 103(a), as being obvious over Lenz (U.S. 5,784,539) in view of Goldenberg.

Claim 5 was cancelled non-prejudicially herein, and will not be discussed in the context of this rejection.

Specifically, the Examiner asserts that while Lenz does not teach a set of alternative medical diagnoses, wherein the expert is a medical expert, Goldberg teaches an interactive network-based virtual doctor cybernet system that provides diagnosis over a wide-area network (referring to Fig.8, page 2, paragraph 15, "a server...over a network). Additionally, with respect to claims 13 through 23, Goldberg teaches: a program operative with the processor to store and update user information (instant claim 13); a program operative with the processor to track user information (instant claim 14); a virtual doctor system over a wide-area network (instant claims 15 through 20); all of the instant applicant's server limitations (instant claims 21-23) (Paper 7, page8, paras 15 through page 12).

Applicant respectfully traverses the Examiner's obviousness rejection, because, as discussed in detail above, the teachings of Lenz have been inadvertently misconstrued, and no *prima facie* case of obviousness can be made based on Lenz, alone or in combination with Goldenberg.

Specifically, as stated herein above, the instant methods are not simply an improvement of an expert system with an intermediate language space and matching algorithm, but represent a *novel form* of expert system design to eliminate the need for classic inference engines and rules tables. Significantly, the instant methods do not require such rule tables or inference engines, do not require

'qualitites' and 'quality values' analogous to those of Lenz, and do not rank alternatives, based on architecture scores based on such quality values. The instant inventive methods have, in essence, queries and conditions (diagnoses) that are related by '*bias values*' that are distinct from the vertical 'qualities' of Lenz.

Applicant, therefore, contends that no *prima facie* case of obviousness can be made in view of the asserted art, and respectfully requests withdrawal of the Examiner's obviousness rejection over Lenz in view of Goldenberg, with respect to claims 13-23 as amended.

New Claims

Applicant's have added new *dependent* claims 24 and 25, drawn to computer apparatus, and computer network apparatus, respectively, wherein ranking the set of alternatives further-comprises querying at least one database to generate at least one secondary bias value.

These *dependent* claims are fully supported by the originally-filed specification, including the claims thereof (*e.g.*, original claims 6 and 7, etc). No new matter has been added.

CONCLUSION

In view of the foregoing amendments and remarks, applicant respectfully requests allowance of all claims 6-23 (all currently amended) and new dependent claims 24 and 25, provided herein above.

The Examiner is encouraged to phone applicant's attorney, Barry L. Davison, to resolve any outstanding issues and expedite allowance of this application.

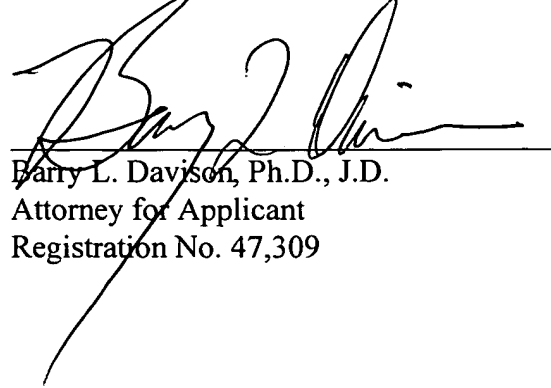No new matter has been added.

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Entry of the Amendment is respectfully requested.

Respectfully submitted,

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